



In re application of:

Rhoads et al.

Application No.: 09/531,076

Filed: March 18, 2000

For: SYSTEM FOR LINKING FROM
OBJECTS TO REMOTE RESOURCES

Examiner: S. Zia

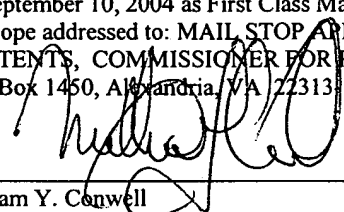
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APPEAL BRIEF

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I. REAL PARTY IN INTEREST

The real party in interest is Digimarc Corporation, by an assignment from the inventors recorded at Reel 11014, Frames 559-563, on July 21, 2000.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

Claims 1-5 and 17-22 stand finally rejected and are appealed. Claims 6-16 are canceled.

IV. STATUS OF AMENDMENTS

All earlier-filed amendments have been entered.

Submitted herewith is an Amendment changing the dependency of claim 19 from claim 17 to claim 18. (Claim 19 refers to a "logical set" that has no antecedent basis in claim 17. That term instead appears in claim 18.) The Appendix at the end of this Brief shows claim 19 assuming entry of such Amendment.

V. BACKGROUND AND SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to linking from objects to associated remote resources.¹ ("Objects" include magazines and other printed media,² together with electronic media.³ "Remote resources" include web pages and other sources of online data.⁴)

¹ See, e.g., specification, page 1, lines 16-17.

² See, e.g., specification, page 1, line 26; page 4, lines 4-5.

³ See, e.g., specification, page 4, lines 1-3; page 31, lines 1-19.

⁴ See, e.g., specification, page 1, line 30.

This basic field has old antecedents. A rudimentary example is a grocery scanner, which reads a barcode from a can of vegetables, and looks-up (links to) an associated price record in an electronic database.

The present assignee markets a technology under the trademark MediaBridge (originally termed “Bedoop”) in which digital watermarks are used to mark the objects.⁵ Watermarks are desirable for a number of reasons, including their applicability to both physical and electronic objects, and their human imperceptibility (e.g., digital watermarks don’t require the dedicated “real estate” of a bar code, and don’t interrupt the visual aesthetic of a printed design with a stark black and white data symbology).

By way of background, applicants note that digital watermarking technology (also known as steganography) encompasses a great variety of techniques by which plural bits of digital data are hidden in some other object, without leaving human-apparent evidence of alteration or data representation. Thus, a photograph in a magazine advertisement can be digitally watermarked to convey a plural-bit digital payload. The photograph looks essentially pristine to a human viewer, but a device that includes a web cam (or other image sensor) and a suitably-programmed processor can decode the plural-bit payload from image data sensed from the printed page.⁶

Digital watermarks can take many forms - several are detailed in patent documents incorporated-by-reference in the present specification.⁷ One form of digital watermarking favored by the present Applicants involves making subtle changes to the luminance of pixels comprising a printed photograph or other graphic to thereby encode a hidden multi-bit auxiliary data payload. The changes are too slight to be perceptible to human viewers.⁸ But when such a watermark-encoded graphic is captured and computer analyzed, the multi-bit payload can be recovered, and a corresponding action can be triggered thereby (e.g., web page loading).⁹

When digitally watermarking a blank substrate – such as unprinted paper – there is no graphic to subtly change. In such cases, digital watermarking can still be effected, e.g., by

⁵ See, e.g., incorporated-by-reference application 60/164,619 at page 1, lines 3-6.

⁶ See, e.g., specification, page 4, lines 18-22.

⁷ See, e.g., specification, page 1, lines 6-13; page 3, lines 15-23; and the incorporation by reference language found at page 43, lines 13-15.

⁸ See, e.g., incorporated-by-reference application 09/503,881 cited at page 3, line 18 (now patent 6,614,914).

depositing tiny speckles of ink to give the paper a slight tint.¹⁰ Again, the droplets of ink define a pattern that can be sensed by a compliant decoder, and the multi-bit data can be decoded therefrom. Alternatively, another way to digitally watermark a blank substrate is to create a subtle texture pattern on its surface. The micro-topological features of the texture appear substantially uniform to human inspection, but analysis of scan data corresponding thereto reveals deliberate patterning that encodes the multi-bit auxiliary data.¹¹

The assignee's MediaBridge technology finds numerous applications.¹² One is linking from printed magazine page (or newspaper pages, catalog pages, etc.) to associated internet web pages,¹³ e.g., through use of a camera- and browser-equipped cell phone.¹⁴ Thus, a consumer can show a magazine picture of a vacation resort to the cell phone, and the cell phone can respond by loading the web page of the depicted resort.

Although powerfully versatile, digital watermarks present some particular challenges. One is that imperceptibility of the watermark lessens with longer payloads. Accordingly, it is desirable to keep the encoded data payload small to keep the watermark imperceptible. Instead of encoding a lengthy URL as a watermark payload (such as <http://marriott.com/property/propertyPage.mi?marshaCode=HNLMC> for the Waikoloa Marriot), it is generally preferable to encode a short identifier (such as 97AE2B) instead. When decoded, this identifier can be passed to a remote server and used as an index to look-up the corresponding (lengthy) URL in a database. This URL is then returned to the browser of the originating device (e.g., cell phone) for linking purposes.¹⁵

To be commercially successful, the time between the moment the cell phone captures the image data, and the moment the corresponding web page is finally loaded, should be as short as possible. (This is sometimes termed "response latency.") In cases where the watermark payload

⁹ See, e.g., specification, page 1, lines 25-30.

¹⁰ See, e.g., specification, incorporated-by-reference application 09/343,104 at page 18, lines 26-31.

¹¹ See, e.g., incorporated-by-reference application 09/503,881 (cited at page 3, line 18), now patent 6,614,914, at col. 1, lines 64-67. See also incorporated-by-reference application 09/343,104 at page 22, lines 23-25.

¹² Many of these applications are detailed in commonly-owned applications incorporated-by-reference in the present specification. See, e.g., application 09/343,104, cited at page 1, line 7, and incorporated-by-reference at page 43, lines 13-15.

¹³ See, e.g., specification, page 1, line 25 through page 2, line 4.

¹⁴ See, e.g., specification, page 3, lines 27.

is an indexing identifier rather than a URL, response latency is largely dependent on the time required to (1) transmit the decoded identifier to the remote server, (2) look-up the corresponding URL in the remote database; and (3) transmit the corresponding URL back to the originating cell phone.

In accordance with one aspect of the present invention,¹⁶ response latency is improved by anticipating an object that may be presented for decoding in the future, based on an object presented in the past. URL information for the anticipated object can then be provided to the cell phone from the database, and cached locally in the phone – eliminating the need for the above-described communications if the anticipated item is, indeed, presented.¹⁷

Consider, for example, a magazine containing watermarked advertising. If the user presents an advertisement to the cell phone, the watermark is decoded and forwarded to the remote server database, which responds with a URL corresponding to that ad. The cell phone browser then initiates a link to that internet address. Now the remote server knows what magazine the user is reading. By reference to the watermark first received, the remote server may discern, for example, that the user is reading the San Francisco edition of the March 14, 2000, *Time* magazine, and just looked at page 85. Based on this information the remote server can anticipate that the user may soon present other advertisements from the same issue. The server can then query the database for URLs associated with other advertising in that issue. These URLs are passed back to the cell phone. If the user next presents an advertisement from page 110 to the phone, the phone finds it already has the corresponding URL locally cached. The phone's browser initiates the link immediately, obviating a data round trip between the application and the remote system.¹⁸

This arrangement can be optimized in a variety of ways. One is to first send URLs corresponding to pages that are next-expected to be encountered. For example, if the user just presented page 85 to the phone, after sending the URL for that page, the remote server could next send the URLs associated with pages 86, 87, etc. On sending the URL for the last page of

¹⁵ See, e.g., specification, page 5, lines 21-24.

¹⁶ See, e.g., claims 1 and 17-22.

¹⁷ See, e.g., specification, page 19, lines 27-30.

¹⁸ See, e.g., specification, page 20, lines 1-16.

the magazine (typically the rear cover), the handler could start from the beginning (typically the front cover) and send further URLs up to that for page 84. Another approach is to first cache URLs for the most conspicuous ads, e.g., first send URLs for any 2-page spread ads, then for each full page add, then for each successively smaller fractional-page ad. Still another approach is for the remote server to dispatch URLs to the phone for caching in accordance with a contractually-agreed priority. One advertiser, for example, may pay a premium ad rate in exchanged for being cached before other advertisers who don't pay the premium. Other caching priorities, and combinations of such priorities, can naturally be employed.¹⁹

Through use of systems according to this aspect of the invention, response latency is decreased, and consumer satisfaction is enhanced.

A second aspect of the invention²⁰ relates to the remote database that is used to associate object identifiers (e.g., 97AE2B) with corresponding URLs, and more particularly relates to the updating of the remote database by different parties.

In the case just-given of a magazine advertisement, there may be several parties involved in the process. Consider a case where Nike advertises in *Wired* magazine. In addition to the operator of the MediaBridge system, the parties involved may include a media buyer at Nike, *Wired* magazine's advertising department, an outside ad agency retained by Nike, a pre-press house, etc. Each may need to add, or update, information in the database. This is done, in accordance with one embodiment of this aspect of the invention, by exchanging an encapsulated file among the various parties, and updating the database accordingly.

In response to a request from a media buyer at Nike, the advertising department at *Wired* agrees to sell space for a MediaBridge-enabled ad. *Wired* may start the process by securing from the operator of the MediaBridge system a particular watermark identifier (e.g., 97AE2B). (This, and most of the following procedures, are effected by computers communicating to computers in accordance with instructions provided by suitable software used by the various participants, etc. In this example this software is the remote server.) *Wired* provides the operator an issue identifier (e.g., San Francisco edition of the July, 2000 issue), and internal tracking information

¹⁹ See, e.g., specification, page 20, lines 17-29.

²⁰ See, e.g., claim 2.

used by the magazine. The remote server responds by sending *Wired* a confirmatory file, by email, that encapsulates the information thus-far (i.e., the watermark identifier, the issue ID, and the magazine tracking information). The server creates a new database record, and parses the received information into corresponding fields of the record.²¹

Wired forwards the file received from the remote server to a media buyer at Nike. Nike supplements the information with its additional data, including the name of the advertisement and internal tracking information. It then forwards the updated file back to the remote server. Again, this server processes the file and updates the database record with the new information. It emails a confirmatory data file to both Nike and *Wired*, so each has the latest set of information.²²

The process continues in this fashion. Each entity provides new data to the remote server via an emailed encapsulating file. The server updates the corresponding database record, and dispatches updated versions of the encapsulating file to the identified participants so each has the latest information.²³

Once Nike has entered its data via this process, it may forward the encapsulating file to its outside ad agency. The ad agency uses the file similarly, adding its particular information, and forwarding the file to the server. The server updates the database record accordingly, adds the ad agency to its email distribution list for encapsulating files, and dispatches the latest version of the file to *Wired*, Nike, and the ad agency.²⁴

The pre-press house may be the next party involved, and so forth.²⁵

Identification of the URL to which the watermark ID corresponds, and updating of the database record accordingly, may not happen until near the end of the process (since the earlier steps may focus on entry of administrative data).²⁶

At any time, any of the parties can provide additional information to the database, and share such information with others, via the same process. (Some information may not be

²¹ See, e.g., specification, page 13, lines 7-19.

²² See, e.g., specification, page 13, lines 20-25.

²³ See, e.g., specification, page 13, lines 26-29.

²⁴ See, e.g., specification, page 14, lines 1-5.

²⁵ See, e.g., specification, page 14, line 6.

suitable for distribution to all involved parties, and can be flagged accordingly.)²⁷

By sharing information in this manner a number of advantages can accrue. One is local availability of the latest information by all parties without the need for an internet connection. Thus, if a creative director wants to work on the beach, or otherwise disconnected from the net, the needed information is still available. Another is the ease of integrating software tools at each of the parties with a file of local data specific to a particular advertisement, rather than requiring the architectural hassles of interfacing with a remote database and navigating its attendant authentication and security hurdles.²⁸

A third aspect of the invention²⁹ concerns a system for linking from physical or digital objects, to corresponding resources. Such a system is depicted in Fig. 2, and described beginning at page 3, line 24 of the specification.

Such a system includes a registration means (19), an originating device means (12), a routing means (14), and a product handler means (16).

The registration means can be a server computer³⁰ that receives data relating to an object (e.g., a printed advertisement, 20), including its identity and its owner. The registration means associates this information in a database (17) with data relating to a corresponding response.³¹

The originating device means can take many different forms, e.g., a cell phone, a personal digital assistant (e.g., a Palm Pilot), a personal computer, a barcode scanning system, etc.³² This originating device means senses data from an input object, processes same, and forwards same to the routing means.³³

The routing means can be a computer.³⁴ The routing means essentially serves as a middleman between the originating device means 12 and the product handler means 16. The routing means receives requests from the originating device means, logs information re same,

²⁶ See, e.g., specification, page 14, lines 7-8.

²⁷ See, e.g., specification, page 14, lines 9-11.

²⁸ See, e.g., specification, page 14, lines 16-23.

²⁹ See, e.g., claim 3.

³⁰ Element 19, Fig. 2; *see also* specification at page 12, line 25 through page 13, line 2.

³¹ See, e.g., specification, page 13, lines 7-19; page 14, lines 7-8.

³² See, e.g., specification, page 3, lines 27-30.

³³ See, e.g., specification, page 4, lines 7-17; page 5, lines 5-8.

³⁴ See, e.g., specification, page 5, lines 9-10.

and then forwards the requests to an appropriate product handler means.³⁵

The product handler means also can be a computer.³⁶ This product handler means provides a response to the originating device means, in accordance with information provided thereto by the routing means.³⁷

These elements cooperate to form a system that enables linking from physical or digital objects, to corresponding digital resources.

(It will be recognized that the examples given in the foregoing discussion are illustrative and not limiting of the scope of the invention. Certain of the claims, for example, are not limited to printed (physical) media objects,³⁸ and the encoding is not limited to digital watermarks.³⁹)

VI. ISSUE/GROUNDS OF REJECTION

Did the Examiner establish *prima facie* obviousness in his rejection of claims 1-5 and 17-22 over Shinoda (6,611,830) in view of Durst (6,108,656)?

VII. GROUPING OF CLAIMS

Each of the pending claims is separately patentable, as detailed below.

VIII. ARGUMENT

Shinoda is somewhat difficult to understand due to the manner of its translation from Japanese into English, but is presently understood to disclose a method for searching for web pages using digital watermark information.

³⁵ See, e.g., specification, page 5, lines 12-15.

³⁶ See, e.g., specification, page 6, lines 15-16.

³⁷ See, e.g., specification, page 5, lines 21-22.

³⁸ See, e.g., claim 1.

³⁹ See, e.g., claim 1 and specification, page 3, lines 9-14.

In particular, Shinoda is understood to include a watermarked logo on a web page. If a user wants to find other, related, web pages, the watermark is decoded by the user's browser ("Mark Information Read Processing" in block 40143 of Fig. 4). The decoded information is then relayed to a Mark Management Server (103, Fig. 2). This server looks up the received watermark information in its Mark Management Database 2021 (see also Fig. 5) and identifies other web pages with related info (e.g., bearing the same watermarked logo). It sends the URLs of these similarly-watermarked web pages to the user's computer.

It will be recognized that Shinoda's functionality appears limited to identifying web pages bearing the same watermarked logo as an initial web page already loaded by a user (col. 5, lines 49-53).

As detailed below, applicants' claims are different than the teachings of Shinoda's disclosure. And these distinctions are not redressed by the proposed combination with Durst.

1. **Claim 1**

Claim 1 relates to the first inventive aspect detailed above, by which address information corresponding to one or more *anticipated* objects is sent to a device, based on knowledge of an object *already* presented. This feature is particularly defined in the italicized claim language below:

1. A method comprising:
 - (a) sensing an object identifier from a first object;
 - (b) sending said first object identifier from a first device to a second device;
 - (c) in response, at said second device, identifying address information corresponding to said first object identifier and sending same to the first device;
 - (d) initiating a link from the first device in accordance with said address information;
 - (e) *at said second device, identifying additional objects related to said first object; identifying additional address information corresponding to said additional objects; and sending said additional address information to the first device;*
 - (f) *storing said additional address information in a memory at the first device;*
 - (g) *wherein, if an object included among said identified additional objects is sensed by the first device, the corresponding address information can be retrieved from said memory in the first device without the intervening delays of communicating with the second device.*

(Labels (a) – (g) are added to facilitate discussion.)

The Examiner contends that Shinoda teaches elements (c) through (g).⁴⁰ However, such contention is not supported by the facts.

As noted, Shinoda concerns a different problem than applicants' claimed arrangement. Shinoda is intended to identify all web pages that bear a certain digitally watermarked logo. Applicants' claimed arrangement, in contrast, aims to avoid communications delays in a print-to-web (or other object-to-web) interaction system.

To try and fit Shinoda's teachings to applicants' claim 1, it appears the "first object" in applicants' claim 1 is being construed to map to Shinoda's logo on the initial web page already loaded by a user (client). The "object identifier" is similarly being mapped to the Mark ID (watermark) that is embedded in Shinoda's logo. And it appears the claimed "first device" is Shinoda's client terminal 101, and the claimed "second device" is being construed to be Shinoda's Mark Management Server 103. (The Examiner is requested to so-state if any of the foregoing is in error.)

In this case, then Shinoda is not understood to teach the claim element (c), *"in response, at said second device, identifying address information corresponding to said first object identifier and sending same to the first device."*

Shinoda has no need to "identify address information corresponding to said first object identifier." The user's client terminal already has the initial web page loaded. The client does not need – and Shinoda does not provide – the URL of the initial web page that the client started with. (Shinoda functions instead to identify other web pages that bear the same watermarked logo as the web page already loaded by the user's client terminal.)

If the Office is intending to construe the "address information corresponding to said first object identifier" to mean URLs of *other* web pages bearing the same logo as the web page initially loaded by the user's client terminal, then the rest of the claim does not map to Shinoda. Shinoda's purpose has then already been fulfilled. He does not teach anything after the act of providing those other web page URLs for the client to link to. Yet the claim goes on for several

more clauses – clauses that have no counterpart to Shinoda under such an interpretation.

Because Shinoda does not teach that for which it has been cited, the Examiner has failed to establish a *prima facie* case under § 103, and the rejection must be reversed.

The Examiner also errs in his reading of the secondary reference, Durst.

Durst shares with the prior art grocery scanner noted above the basic operation of linking from a physical object to an electronic resource. Durst particularly links from bar-coded objects to corresponding web pages. However, like Shinoda, Durst fails to address the issue of speeding response time by anticipating an object that may be presented in the future, based on an object presented in the past.

The Examiner contends that Durst teaches claim limitation (c), citing column 5, line 53 to column 6, line 2.⁴¹ However, the Examiner again is mistaken. The cited passage instead teaches that documents such as magazine advertisements can be provided with a bar code that identifies not just the document, but also demographic information about the particular person to whom the document is delivered. This additional information can be used to tailor the response of the system to that particular person.

The Examiner is also mistaken when he alleges that Durst teaches “foreseeing information about object payloads that may be forthcoming, and anticipatory sending address information associated with such foreseen payloads,” citing column 4, line 46 to column 5, line 52.⁴²

The cited passage does not teach foreseeing anything, nor anticipatorily sending address information. Rather, the cited passage simply describes a basic system for reading a barcode from a magazine ad, and directing a browser to a corresponding web page.

Again, because the art fails (repeatedly) to teach that for which it has been cited, the Examiner has failed to establish a *prima facie* case under § 103, and the rejection must be reversed.

⁴⁰ Final Rejection, page 3, lines 4-14.

⁴¹ Final Rejection, page 4, lines 17-18.

⁴² Final Rejection, page 5, lines 2-4.

Still further, the Examiner failed to provide a legally sufficient rationale for modifying and combining the references.

The Examiner's stated rationale (offered for all of claims 1, 2, 3 and 17) is:

Therefore, it would be obvious for one with ordinary skill in the art at the time the invention was made to employ the teachings of Durst within the system of Shinoda to provide a mechanism to read machine-readable (such as scanner or barcode reader) symbol comprising encoded source data, application launch information as well as file location information, because this will provide another interface of data connection for transmitting information between at least a first communication device and a second communication device.

This rationale fails on a number of points. First, if Durst's and Shinoda's teachings were combined, the presently claimed arrangement would not result. (It is not clear what *would* result. Shinoda's system allows a user who finds one web page of interest - e.g., bearing a watermarked Nike logo - to identify other web pages that bear that same logo. But Durst involves the different realm of physical object-to-web page linking. Would the combination, upon scanning a barcode in a magazine ad, provide a list of other magazine ads containing the same barcode?)

Moreover, the justification for the proposed rationale is insufficient: "...*because this will provide another interface of data connection for transmitting information between at least a first communication device and a second communication device.*" The import of that statement is unclear. But it clearly appears to draw from the Examiner's view of the result of his imagined combination, rather than from any cognizable teaching in the art.

The inadequacy of the rationale is a third reason that the rejection of claim 1 must be reversed.

In view of the foregoing, the Action has failed to establish *prima facie* obviousness of claim 1, and the rejection thereof must be reversed.

2. Claim 2

Claim 2 is an independent method claim drawn to the updating of a database by different parties (e.g., a media buyer at Nike, Wired magazine's advertising department, an outside ad agency retained by Nike, a pre-press house, etc.). The claim reads as follows:

*2. A database method comprising:
generating a database record including plural data fields;
generating a file corresponding to said database record and including data from
at least certain of said fields;
electronically distributing a copy of the file to each of plural recipients;
one of said recipients adding data to a copy of the file, or changing data in a copy
of the file, and sending the file to the database;
updating the database record in accordance with said changed file;
generating a new file corresponding to the updated database record and
including data from at least certain of said fields; and
electronically distributing a copy of the new file to each of said plural recipients.*

Claim 2 is rejected as obvious over Shinoda and Durst. However, in the Final Rejection, the Examiner contends that each of the limitations of claim 2 is found in Shinoda – alone.⁴³

The Examiner is mistaken. Shinoda does not teach the method of claim 2.

While Shinoda shows – in Fig. 5 – a database record with plural data fields, Shinoda is not understood to teach: generating a file corresponding to a database record and distributing same to plural recipients; adding or changing data in the distributed file by one of the recipients, and sending the changed file to the database; updating the database record in accordance with the changed file; and generating and distributing to the plural recipients a new file corresponding to the updated database record.

The Examiner cites Shinoda col. 5, line 48 to col. 6, line 64, in support of his statement that Shinoda teaches each limitation of claim 2. However, this excerpt simply details the method by which Shinoda searches for web pages bearing a common watermarked logo. That method does not meet all of the limitations of claim 2.

⁴³ Final Rejection, page 3, lines 15-22.

This passage does not teach generating a file corresponding to a database record (having plural fields), and electronically distributing a copy of such a file to plural recipients – one of whom adds to or changes data in the file and sends back to the database, nor the updating of a database in accordance with the file, nor the generation of a new file corresponding to the updated database record, nor the electronic distribution of a copy of the new file to each of plural recipients.

If an anticipation rejection was intended, such rejection fails because the art fails to teach all the limitations of the claim.

If an obviousness rejection was intended, such rejection fails because it neglects to identify any elements missing from Shinoda, and because it fails to explain why an artisan would find it obvious to employ a method combining Shinoda with the missing elements to yield the claimed arrangement.

Moreover, the rationale offered by the Examiner in support of the proposed modification/combination of references (quoted above in connection with claim 1) is inadequate. There is no suggestion as to what element(s) from Durst should be incorporated. And the justification for the proposed rationale is insufficient: “...*because this will provide another interface of data connection for transmitting information between at least a first communication device and a second communication device.*” Again, the import of that statement is unclear. But it clearly appears to draw from the Examiner’s view of the result of his imagined combination, rather than from any cognizable teaching in the art.

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

3. **Claim 3**

Claim 3 is an independent system claim:

3. *A system for linking from physical or digital objects to corresponding digital resources, comprising:
registration means for receiving data relating to an object, including its identity and owner, and associating same in a database with data relating to a corresponding*

response;

originating device means for sensing data from an input object, processing same, and forwarding same to a routing means;

routing means for processing the processed data from the originating device means, logging information from same, and forwarding at least certain of said processed data to a product handler means; and

product handler means for providing a response to the originating device means in accordance with the information provided thereto by the routing means.

Claim 3 is rejected as obvious over Shinoda and Durst. However, like claim 2, the Examiner again contends that each of the limitations of claim 3 is found in Shinoda – alone.⁴⁴

The Examiner is again mistaken. Shinoda does not teach the system of claim 3.

The Examiner cites Shinoda col. 4, lines 17-63, line 64, in support of his statement that Shinoda teaches each limitation of claim 3. However, this excerpt is understood to teach how a web browser can query the Mark Management Server 103 to obtain the URLs of other web pages that include the same logo as a web page already loaded by the client terminal 101. This is not understood to teach the limitations of claim 3, e.g., the registration means, the originating device means, the routing means, and the product handler means – with the interrelationships detailed in the claim.

Again, if an anticipation rejection was intended (i.e., no reliance on Durst was intended), such rejection fails because the art fails to teach all the limitations of the claim.

If an obviousness rejection was intended, such rejection fails because it neglects to identify any elements missing from Shinoda, and because it fails to explain why an artisan would find it obvious to employ a method combining Shinoda with the missing elements to yield the claimed arrangement.

Moreover, the rationale offered by the Examiner in support of the proposed modification/combination of references (quoted above in connection with claim 1 is inadequate). There is no suggestion as to what element(s) from Durst should be incorporated. And the justification for the proposed rationale is insufficient: “...*because this will provide another interface of data connection for transmitting information between at least a first communication*

⁴⁴ Final Rejection, page 4, lines 1-9.

device and a second communication device.” Again, the import of that statement is unclear. But it clearly appears to draw from the Examiner’s view of the result of his imagined combination, rather than from any cognizable teaching in the art.

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

4. **Claim 4**

Claim 4 depends from claim 3, and is similarly allowable. Claim 4 is also independently patentable. The claim reads:

4. The system of claim 3 in which the routing means includes means for checking information in the database.

The Examiner cites Shinoda at col. 8, lines 18-35 for this limitation.⁴⁵ However, this excerpt does not teach the claimed limitation. Rather, it explains that Shindoa’s mark management database 2021 can be located in his mark management server 103 or elsewhere, and that the mark management server 103 can perform both (a) mark dispensing and (b) search processing, or that these functions can be performed by two or more separate servers.

Again, the art fails to teach that for which it is cited. (And again, as detailed above, the rationale offered by the Examiner to justify the proposed modification/combination of Shinoda and Durst is inadequate.)

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

5. **Claim 5**

Claim 5 also depends from claim 3, and is similarly allowable. Claim 5 is also independently patentable. The claim reads:

⁴⁵ Final Rejection, page 5, lines 15-16.

5. The system of claim 3 in which the registration means includes means for generating an encapsulating file and means for distributing said file to predetermined parties.

Again, the Examiner contends that Shinoda teaches this claim limitation. Again, he is mistaken.

The Examiner cites Shinoda at col. 6, lines 14-29 and col. 7, lines 44-61 for this limitation.⁴⁶ However, these passages are not on-point.

The first excerpt is understood to explain that Shinoda's mark management server 103 searches the mark management database 2021 to identify web page URLs having the same watermarked logo, and transmits same for display on a client terminal.

The second excerpt is understood the organization of the database records in the mark management database 2021.

Again, the art fails to teach that for which it is cited. (And again, as detailed above, the rationale offered by the Examiner to justify the proposed modification/combination of Shinoda and Durst is inadequate.)

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

6. Claim 17

Claim 17 is a Jepson-style independent claim drawn to the first inventive aspect detailed above, by which address information corresponding to one or more *anticipated* objects is sent to a device, based on knowledge of an object *already* presented. The claim reads as follows (underlining added):

17. In a method of linking from physical objects to corresponding electronic resources, the method including decoding object payload data from a machine readable feature associated with a physical object, querying a database with at least some of said payload data to obtain address information associated with said physical object, and establishing an electronic link based on said obtained address information, an

⁴⁶ Final Rejection, page 5, lines 17-19.

improvement comprising foreseeing information about object payloads that may be forthcoming, and anticipatorily sending address information associated with such foreseen object payloads.

Again, the claim stands rejected over Shinoda in view of Durst. (The limitations found in the Jepson improvement clause are said by the Examiner to be found in Durst,⁴⁷ so it seems the claim could have been rejected over admitted prior art <the claim preamble> in view of Durst.)

Contrary to the Examiner's statement, the limitations found in the Jepson improvement clause are *not* taught by Durst.

The Examiner cites Durst col. 4, line 46 to col. 5, line 52, in support of his position.⁴⁸ However, that passage does not teach "*foreseeing information about object payloads that may be forthcoming, and anticipatorily sending address information associated with such foreseen object payloads*" as required by the claim.

Instead, the cited passage is understood to describe how a printed document may be made "intelligent" by incorporating a bar-coded reference to an on-line resource (e.g., a web site) related to the document. No "anticipatory sending" of address information about "foreseen" object payloads" is taught or suggested.

Again, the art fails to teach that for which it is cited. (And again, as detailed above, the rationale offered by the Examiner to justify the proposed modification/combination of Shinoda and Durst is inadequate.)

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

7. Claim 18

Claim 18 depends from claim 17, and is similarly allowable. Claim 18 is also independently patentable. The claim reads:

⁴⁷ Final Rejection, page 5, lines 2-4.

⁴⁸ Final Rejection, page 5, lines 2-4.

18. The method of claim 17 in which the physical object is a member of a logical set, and the method includes anticipatorily sending address information associated with other objects that are also members of said logical set.

The Examiner cites Shinoda at col. 6, lines 14-29, and col. 7, lines 44-61 for these limitations.⁴⁹ However, this is a *non sequitur*, as the Jepson improvement clause of claim 17 which claim 18 further defines, is said to have been found in *Durst*, not Shinoda.

The passages cited in Shinoda (the same passages cited in support of the limitations of claim 5) do not teach the limitations introduced by claim 18.

The first excerpt is understood to explain that Shinoda's mark management server 103 searches the mark management database 2021 to identify web page URLs having the same watermarked logo, and transmits same for display on a client terminal.

The second excerpt is understood the organization of the database records in the mark management database 2021.

Again, the art fails to teach that for which it is cited. (And again, as detailed above, the rationale offered by the Examiner to justify the proposed modification/combination of Shinoda and Durst is inadequate.)

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

8. Claim 19

Claim 19 depends from claim 18,⁵⁰ and is similarly allowable. Claim 19 is also independently patentable. The claim reads:

19. The method of claim 18 in which the logical set comprises a set of advertisements found in a particular magazine.

⁴⁹ Final Rejection, page 5, last three lines.

⁵⁰ After entry of the accompanying Amendment, correcting an antecedent basis problem.

The Examiner cites Durst at col. 5, lines 15-23 for this limitation.⁵¹ The cited passage *does* note that advertisements are among the documents which Durst makes “intelligent” by inclusion of a bar-coded reference to an on-line resource. However, taken in conjunction with the language of claim 18, the claim requires anticipatorily sending address information associated with a *set* of advertisements, based on a *single* advertisement from that set.

Durst does not teach or suggest such an arrangement.

Again, the art fails to teach that for which it is cited. (And again, as detailed above, the rationale offered by the Examiner to justify the proposed modification/combination of Shinoda and Durst is inadequate.)

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

9. Claim 20

Claim 20 also depends from claim 17, and is similarly allowable. Claim 20 is also independently patentable. The claim reads:

20. The method of claim 17 that includes foreseeing an order in which other object payloads may be forthcoming, and anticipatorily sending address information for such object payloads in said order.

Thus, not only does the method call for foreseeing object payloads that may be forthcoming, but it sends address information for such objects in a foreseen order in which said object payloads may be forthcoming.

The Examiner again cites Shinoda at col. 6, lines 14-41 for this limitation.⁵²

Again, the Jepson improvement of claim 17 (which this claim 20 further defines) is said to be taught by Durst, so the Examiner’s reliance on Shinoda for this limitation is a *non sequitur*.

To the merits, the cited passage of Shinoda again does not teach that for which it has been cited.

⁵¹ Final Rejection, page 6, lines 1-2.

⁵² Final Rejection, page 6, lines 3-5.

The cited passage is understood to explain that Shinoda's mark management server 103 searches the mark management database 2021 to identify web page URLs having the same watermarked logo, and transmits same for display on a client terminal. The client terminal can then load any of the identified web pages.

Again, the art fails to teach that for which it is cited. (And again, as detailed above, the rationale offered by the Examiner to justify the proposed modification/combination of Shinoda and Durst is inadequate.)

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

10. **Claim 21**

Claim 21 depends from claim 20, and is similarly allowable. Claim 21 is also independently patentable. The claim reads:

21. The method of claim 20 in which said order is based on an order of printed pages in a bound volume.

The Examiner contends that Durst, col. 5, lines 53-61 teaches this limitation.⁵³ Again, it does not.

The cited passage reads as follows:

The above scenario is useful when a vendor prints and distributes such intelligent documents on a mass scale. That is, the code distributed is the same for each user. In an alternative embodiment, specific user data is included with the data string 20 to provide for personalized operation as follows. This scenario is useful when the vendor makes individual printings keyed to individual users, such as when mailing labels are printed for inclusion on an envelope surrounding a magazine or the like.

It will be recognized that this passage does not teach foreseeing an order – *based on an order of printed pages in a bound volume* - in which other object payloads may be forthcoming,

⁵³ Final Rejection, page 6, lines 6-7.

and anticipatorily sending address information for such object payloads in said order, as required by the claim.

Again, the art fails to teach that for which it is cited. (And again, as detailed above, the rationale offered by the Examiner to justify the proposed modification/combination of Shinoda and Durst is inadequate.)

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

11. Claim 22

Claim 22 depends from claim 17 and is similarly allowable. Claim 22 is also independently patentable. The claim reads:

22. The method of claim 17 that includes determining an order in which to send address information associated with said foreseen object payloads based on a contractual arrangement.

The Examiner contends that this limitation is taught by Shinoda at col. 6, lines 14-29, and col. 7, lines 44-61⁵⁴ (the same passages relied upon in the rejection of claim 5).

Again, the first excerpt is understood to explain that Shinoda's mark management server 103 searches the mark management database 2021 to identify web page URLs having the same watermarked logo, and transmits same for display on a client terminal.

The second excerpt is understood the organization of the database records in the mark management database 2021.

Neither excerpt relates to determining an order in which address information will be sent, based on a contractual arrangement.

Again, the art fails to teach that for which it is cited. (And again, as detailed above, the rationale offered by the Examiner to justify the proposed modification/combination of Shinoda and Durst is inadequate.)

Again, the rejection fails to establish *prima facie* obviousness, and must be reversed.

⁵⁴ Final Rejection, page 6, lines 8-10.

IX. CONCLUSION

The burden is on the Examiner to establish a *prima facie* case of obviousness. The Final Rejection failed on multiple grounds to meet that burden.⁵⁵ The rejections of claims 1-5 and 17-22 should be reversed, and all pending claims passed to issuance.


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⁵⁵ Given the Examiner's failure to meet his initial burden, applicants do not lengthen this brief by belaboring all of the reasons affirmatively supporting patentability of the claims.

APPENDIX A
PENDING CLAIMS

1. A method comprising:
 - sensing an object identifier from a first object;
 - sending said first object identifier from a first device to a second device;
 - in response, at said second device, identifying address information corresponding to said first object identifier and sending same to the first device;
 - initiating a link from the first device in accordance with said address information;
 - at said second device, identifying additional objects related to said first object;
 - identifying additional address information corresponding to said additional objects; and sending said additional address information to the first device;
 - storing said additional address information in a memory at the first device;
 - wherein, if an object included among said identified additional objects is sensed by the first device, the corresponding address information can be retrieved from said memory in the first device without the intervening delays of communicating with the second device.

2. A database method comprising:
 - generating a database record including plural data fields;
 - generating a file corresponding to said database record and including data from at least certain of said fields;
 - electronically distributing a copy of the file to each of plural recipients;
 - one of said recipients adding data to a copy of the file, or changing data in a copy of the file, and sending the file to the database;
 - updating the database record in accordance with said changed file;
 - generating a new file corresponding to the updated database record and including data from at least certain of said fields; and
 - electronically distributing a copy of the new file to each of said plural recipients.

3. A system for linking from physical or digital objects to corresponding digital resources, comprising:

registration means for receiving data relating to an object, including its identity and owner, and associating same in a database with data relating to a corresponding response;

originating device means for sensing data from an input object, processing same, and forwarding same to a routing means;

routing means for processing the processed data from the originating device means, logging information from same, and forwarding at least certain of said processed data to a product handler means; and

product handler means for providing a response to the originating device means in accordance with the information provided thereto by the routing means.

4. The system of claim 3 in which the routing means includes means for checking information in the database.

5. The system of claim 3 in which the registration means includes means for generating an encapsulating file and means for distributing said file to predetermined parties.

6-16. (Canceled)

17. In a method of linking from physical objects to corresponding electronic resources, the method including decoding object payload data from a machine readable feature associated with a physical object, querying a database with at least some of said payload data to obtain address information associated with said physical object, and establishing an electronic link based on said obtained address information, an improvement comprising foreseeing information about object payloads that may be forthcoming, and anticipatorily sending address information associated with such foreseen object payloads.

18. The method of claim 17 in which the physical object is a member of a logical set, and the method includes anticipatorily sending address information associated with other objects that are also members of said logical set.

19. The method of claim 17 in which the logical set comprises a set of advertisements found in a particular magazine.

20. The method of claim 17 that includes foreseeing an order in which other object payloads may be forthcoming, and anticipatorily sending address information for such object payloads in said order.

21. The method of claim 20 in which said order is based on an order of printed pages in a bound volume.

22. The method of claim 17 that includes determining an order in which to send address information associated with said foreseen object payloads based on a contractual arrangement.